SOFT DOLLARS AND THE BROKERAGE INDUSTRY

by

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August 17, 1992

Numerous individuals and organizations contributed to this study. The New York Stock Exchange provided a generous research grant to the Rodney L. White Center of the Wharton School of the University of Pennsylvania to undertake the study. A large number of firms and organizations participated in the pretest of the questionnaire, and thirteen organizations used their own letterhead to solicit responses. Although these organizations were instrumental in the success of the survey, assurances of confidentiality preclude thanking them explicitly. I owe a special note of gratitude to Abel/Noser Corporation for allowing analyses of the trading records of its clients in ways that preserved the confidentiality of these records. Bruce Johnsen, Donald Keim, Dennis Logue, and Eugene Noser have made numerous, valuable comments that markedly improved the manuscript. My final thanks go to the research and support staff of the Rodney L. White Center, including Darren Klein, Keith Noreika, Todd Rosentover, Betsey Schmidt, and Yun Kuen Wong.

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Abstract

Large investors frequently receive some type of research service in return for sending an equity trade to a specific brokerage firm. The commissions so directed are associated with the term "soft dollars." This study employs a survey of institutional managers and a sample of their trading records to examine the effect of soft dollars on the structure of the brokerage industry and finds that these effects have been significant in redirecting order flow to different types of brokers. Additionally, there is some evidence that investment managers tend to send their easier orders to brokerage houses providing research for soft dollars and their harder orders to more traditional brokerage houses that are more likely to commit their own capital to facilitate a trade. Furthermore, investment managers tend to be less pleased with the quality of execution for certain types of soft dollar transactions.

SOFT DOLLARS AND THE BROKERAGE INDUSTRY

The use of "soft dollars" to pay for "research" is a common, but not widely publicized, practice of institutional investors. Soft dollars trace their origin to the 1950s when institutional investors became increasingly important players in the equity markets and minimum commission rates for trading listed equities were fixed at above competitive levels.[1] In an environment of increasing trade size and fixed rates, brokerage firms competed for order flow by returning a portion of their commissions in the form of additional research services, or even direct payments.[2] A whole industry developed to recycle these excess commissions, which later became known as "soft dollars."

In 1974 and 1975, Congress debated the elimination of fixed commission rates. If commission rates became competitive, excess commissions might vanish, and a major reason for the existence of the soft dollar industry would disappear. Moreover, many argued that fiduciary responsibility would require an investment manager to use the least expensive brokerage services, without regard to other services being provided. The soft dollar industry lobbied Congress with the result that the 1975 Amendments to the 1934 Securities Exchange Act added

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[1]That commission rates immediately declined when they became negotiable in May 1975 indicates the rates were above their competitive level.

[2]The services and direct payments took many forms. Some investment managers received additional research services that presumably improved their investment performance. Assuming that they would have purchased these services anyhow, the effect was to reduce the managers' expenses and thus increase the managers' profit--at the expense of the client. As an example of a direct payment, a manager of a mutual fund, whose fees were determined by the size of the fund, would often direct a broker who executed a trade on behalf of the fund to "give up" a portion of the commission to a third party as a reward for selling shares in the mutual fund to new investors. *The Report of the Special Study of Securities Markets of the Securities and Exchange Commission* (U.S. Government Printing Office, Washington), 1963, documents many of the arrangements used to rebate a portion of the excess commissions through additional services or outright payments, but ultimately concludes that there were so many arrangements in the industry that no one would ever know the true extent of these practices.

Section 28(e) to the Exchange Act to provide the legal framework for the continuation of using commissions to pay for both brokerage and "research." By meeting the provisions of this section,[3] an investment manager has a safe harbor to use soft dollars.[4]

The purpose of this paper is to provide some direct evidence of the effect of soft dollars upon the structure of the brokerage industry. This study uses two data sources. The first consists of mail surveys of all investment managers that manage $100 million or more of direct equity investments; the second consists of trading records of institutions themselves that Able/Noser Corp. has obtained from its clients.

The paper begins with a description of how investment managers and their clients use soft dollars. The second section shows that soft dollars have had a significant effect upon how investment managers allocate their trading activities among brokerage firms. The third section summarizes the desire of investment managers to restrict the use of soft dollars. The fourth section concludes with a summary of the paper's main results and a discussion of what this paper has not accomplished.

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[3]Section 28(e) contains six provisions, some of which have very little economic significance, to qualify for a safe harbor: (1) Commissions can be used only for brokerage and research. The SEC is charged with the important task of defining research, and in practice has changed the definition of research over time. (2) The brokerage firm must provide the research. Currently, this provision has no economic substance, but it has to be abided by in form. (3) The person or organization receiving soft dollars must have investment discretion. (4) The commissions, considering both execution and research, must be reasonable. (5) Section 28(e) applies only to commissions. In a July 1990 letter, the SEC staff clarified this provision by excluding "principal transactions," in which an investment manager buys a security at more than the cheapest price or sells a security at less than the best price, with the difference attributable to soft dollars. (6) Section 28(e) applies to security transactions. In a July 1990 letter, the SEC staff clarified this provision by indicating that it does not cover commodities, including financial futures.

[4]The following two papers provide greater detail about soft dollars and more general practices to induce order flow: The transcript of *The Roundtable on Commission Payment for Order Flow Practices* held at the Securities and Exchange Commission on July 24, 1989, and *Inducements for Order Flow: A Report to the Board of Governors* (Washington: National Association of Securities Dealers, Inc., July 1991).

I. The Prevalence and Use of Soft Dollars

In 1989, institutional investors generated $1.720 billion of commissions on their equity trades, of which $692 million--or roughly 40 percent--involved the purchase of research with soft dollars. These estimates come from Greenwich Associates, a Connecticut firm that until 1989 interviewed large samples of investment managers about their use of soft dollars. Greenwich's numbers probably understate the use of soft dollars since they are based only upon those commissions that institutions have explicitly identified as involving soft dollars and it is likely that not all soft dollar transactions have been identified.

To learn more about the use of soft dollars, on September 16, 1991 the Rodney L. White Center for Financial Research mailed a questionnaire to 1242 investment managers who were identified as managing more than $100 million of equities. The response rate was 32.6 percent, with 405 questionnaires returned over a period of five months.[5]

The survey instrument itself underwent extensive pretesting. One of the major difficulties in developing the questionnaire was defining soft dollar transactions so that they conveyed the same meaning to all investment managers. The definitions fell into three categories: The first category involves commissions associated with in-house research. For example, a brokerage firm may provide a client with a particular buy or sell recommendation with the expectation that the client will use its brokerage services in the event that the client decides to act upon the recommendation.

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[5]The survey used two techniques to elicit responses: 13 companies and organizations with substantial pension assets agreed to send the survey to their investment managers under their letterhead. In total, 153 investment managers received surveys in this way, and 109 completed the questionnaire. The remaining 1089 investment managers received a letter from the Dean of the Wharton School soliciting their participation, and 396 completed the questionnaire. Overall, there was no apparent relation between the value of the equities managed and the response rate. Moreover, the pattern of responses to specific items between the two solicitation groups was quite similar.

The second category involves commissions used to obtain third-party research for the investment manager's use. For example, an investment manager might incur a commission of $200 and the broker would then write a check of $111 to a third party who provides some type of research to the investment manager.[6] The so-called conversion rate for this specific transaction is 1.8, meaning that every $1.80 of commissions generates a payment of $1.00 to a third party. If properly structured, such transactions to obtain in-house or third-party research are covered under Section 28(e).[7]

The third category involves commissions on orders that the client, plan sponsor, or trustee directs its own investment manager to send to a specific brokerage house, or a group of houses, to obtain research and products for the client's own use. As with "third-party" research, research obtained through directed brokerage might involve the brokerage firm writing a check to another organization using a negotiated conversion rate. Alternatively, the brokerage firm itself might provide the research product directly to the client in return for the commissions. Frequently, when the brokerage firm provides the product itself, the firm will quote two prices: one in terms of commissions and the other in terms of real or "hard dollars." These two prices imply a conversion rate. Typically, Section 28(e) does not cover directed brokerage since one of the section's major provisions is that the recipient of the research must exercise discretion over the purchases and sales of the equity investments, and a client who has hired an investment manager no longer retains such discretion. However, as long as a client is carrying out his or

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[6]Oftentimes, the third-party payment is made before any trades take place. In this case, the broker has no legally enforceable contract to obtain the agreed upon commissions, but as a practical matter, an investment manager who wants to continue to obtain third-party research has an incentive to honor the commitment.

[7]As an aside, interviews with some providers of in-house research revealed that these providers did not want to associate the term soft dollars with in-house research. Nonetheless, they did understand the difference between these two categories.

her fiduciary responsibility to the fund's beneficiaries, the client would presumably not require an explicit safe harbor.[8]

The 1975 Amendments charge the SEC with defining "research," and the SEC has on numerous occasions changed what is included under this term. Sometimes, the SEC has changed its definition in response to well-publicized abuses, such as payment for trips to Europe with only a tangential relation to any research function.[9] Other times, the SEC has changed its definition in response to difficulties of enforcement. Thus, in 1986, the SEC broadened the definition to include items like subscriptions to *The Wall Street Journal* and other publicly available products.

According to the survey, the three most commonly purchased "third-party" research products are fundamental research, data on expected earnings, and macroeconomic services (Table 1). Other products purchased include computer software, technical research, portfolio consulting services, computer hardware, educational services, and office support activities. The survey did not inquire as to the type of in-house research purchased through soft dollars since the author thought at the time of the design of the questionnaire that this type of research represents for the most part traditional research reports on individual companies, industries, and the economy. In retrospect, it would have been desirable to obtain information on the specific types of in-house research that investment managers obtain.

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[8]The Department of Labor has the responsibility for regulating ERISA plans and has issued guidelines for the use of directed commissions. See *Statement of Policies Concerning Soft Dollars and Directed Commission Arrangements*, ERISA Technical Release No 86-1 (May 22, 1986).

[9]The lead article of *The Wall Street Journal* of October 4, 1984 described in great detail some of these abuses. To quote only one example: "ABD, owned by two German banks, runs 'research trips' to Europe, Japan and Australia, including air fares, hotels, and even dinner parties, for $15,000 to $25,000 in soft-dollar commissions."

The survey of the investment managers asked about the products that their clients obtain through directed brokerage. The most commonly obtained services are portfolio consulting services and transaction cost analyses (Table 2). The third most commonly used service is refunds of a portion of the commissions to the plan itself.[10] Other products or services include actuarial and accounting services, custodial fees, trading and quotation services, educational services, computer software, computer hardware, and office support activities.

Of the total commissions used to purchase research, the survey responses indicate that on average 45.7 percent were used to obtain in-house research, 30.9 percent were used to purchase third-party research, and 23.4 percent were associated with directed brokerage. There was wide variability among these percentages from one investment manager to another. Additionally, 47.2 percent of the respondents placed some limits on the amount of commissions that they allow a client to direct (Section D of the Appendix).

II. The Effect on the Brokerage Industry

The existence of soft dollars has had a significant impact on the structure of the brokerage industry. This conclusion is based in part upon the responses to the questionnaire, but also upon an analysis of the actual trading records of the institutional clients of Abel/Noser Corporation for the first quarter of 1990.[11] There is always some concern in accepting at face value subjective responses to any questionnaire, but, when objective data are consistent with the

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[10]One might ask why the investment manager does not just pay less commission in the first place. A possible explanation is that a brokerage firm wants to charge a nominal commission rate of at least some specific amount, so that it can assure all its customers that they are receiving the lowest rate charged any other customer.

[11]Abel/Noser made these records available with the understanding that these trading records would remain confidential and that only summary statistics from them would be published.

responses to a survey, one can be more confident about the survey responses themselves. The Abel/Noser data provide this additional confirmation.

Abel/Noser is a brokerage firm in New York that, as part of its business, analyzes the trading costs incurred by its institutional clients. In undertaking this analysis, Abel/Noser receives in machine-readable form the list of all executed orders on a daily basis for each of its clients, who are primarily plan sponsors.[12] If an order required only one trade, the price reported is the price of that trade, but if the order required more than one trade, the price reported is the volume-weighted average price.[13] Unfortunately, these records do not contain the times of any of the trades--information that would of great value in analyzing the price impact of a specific trade.

For this study, Abel/Noser made available all of the trading records of its clients, as well as pricing data, for the first quarter of 1990. From these data, we selected all transactions for NYSE-listed common stock and discarded all the other transactions. To use these data, we had to rearrange the records by broker rather than by their original order by sponsor, and this proved to be an extremely tedious task. The custodians of Abel/Noser's clients identified the brokerage houses in a variety of ways, some including the broker's full name and others using only an abbreviation. Some of the abbreviations were so abbreviated that it was not possible to associate them uniquely with any brokerage firm, and these records were discarded as the goal was to obtain as clean a sample as possible. The final file contained 125,378 trading records.

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[12]For a plan sponsor with multiple managers, the volume given in the trading records may understate the true order size if one manager is selling a stock and another buying it on the same day and if, as sometimes happens, the trading records give the net volume. Likewise, if a manager has several clients and executes a single trade on behalf of their accounts, the trading record for an individual plan sponsor will understate the true size of the order that the manager executes.

[13]A large order is frequently "worked" over a period time and thus its execution may involve more than one trade--often at more than one price.

It is important to note that the sample includes only those who have taken the initiative to have the costs of their trades analyzed.[14] Abel/Noser's clients are clearly aware of trading costs, and thus the trading costs in this sample may understate the trading costs of all institutional investors. A comparison of the commissions per share between this sample and the data from Greenwich is consistent with these potential biases. The median daily commission per share in the Abel/Noser data was 5.0 cents per share--considerably less than the average commission per share of 9.1 cents reported by Greenwich in their 1989 survey. Additionally, the Abel/Noser sample is probably biased towards larger funds.

To classify the brokerage firm by type of business, we used the classification system of SEI, a consulting firm in Wayne, Pennsylvania. SEI classifies brokerage firms into three types: capital brokers, specialty brokers, and service brokers. Capital brokers include large block trading firms like Goldman Sachs, which sometimes risk their own capital by taking short-term positions to facilitate a trade. Service brokers include brokerage firms like Autranet, which facilitate third-party payments and directed brokerage. Specialty brokers, such as Sanford C. Bernstein & Co., are brokers that do not fall conveniently into either of these two categories. Additionally, transactions executed on Instinet are classified separately.

A. Commission Rates

Interestingly, the distribution of per share commissions does not differ much among these three types of brokers except at the lowest commissions levels (Table 3). The commissions per share that capital brokers charged were 8 cents or less for 95 percent of their orders--the same number as the service brokers. However, at the lowest commissions, capital brokers executed their trades at lower commissions than did service brokers: 1 percent of the

[14]According to the survey, roughly two-thirds of the investment managers analyze their trading costs on occasion or always (Section G of the Appendix). The survey did not ask whether the sponsors or the investment advisors initiated these analyses.

total number of orders executed by capital brokers carried a commission of less than 0.5 cents per share, while the corresponding number for service firms was 2.0 cents per share. As expected, the commissions per share for Instinet are consistently lower than for the other brokerage firms.

B. The Allocation of Brokerage

The existence of soft dollars has had a significant impact upon the allocation of brokerage among different types of brokers. According to the survey, 36.2 percent of the respondents almost always or always use a broker that they would not normally use for directed brokerage; 21.8 percent almost always or always use a broker that they would not normally use for third-party research; and 17.1 percent almost always or always use a broker that they would not normally use for in-house research (Section A of the Appendix).

The investment managers expressed marked differences in their satisfaction with execution quality according to the type of research purchased: 75.0 percent of the investment managers were almost always or always satisfied with the quality of execution for in-house research; 57.0 percent were almost always or always satisfied with the quality of execution for third-party research; but only 25.9 percent were almost always or always satisfied with the quality of execution for directed brokerage (Section B of the Appendix).[15]

Perhaps reflecting these differences in levels of satisfaction with execution quality, 29.8 percent almost always or always send their easier trades to brokers whom clients have designated for directed brokerage; 19.0 percent almost always or always send their easier trades

[15]In pretesting the questionnaire, we learned of one company that is so dissatisfied with the quality of the execution of trades for third-party research and directed brokerage that it executes these types of trades at very high commission rates, like 25 cents per share, in order to generate the required soft dollars--thereby reducing the number of trades required to generate a specific amount of soft dollars and thus reducing the effect of any poor execution of these trades upon the total performance of the overall plan.

to brokers who provide third-party research; but only 6.6 percent almost always or always send their easier trades to brokers who provide in-house research (Section C of the Appendix).[16]

The Abel/Noser data are consistent with these survey responses in that the capital brokers do appear to receive a disproportionate percentage of the larger and potentially more difficult orders. Specifically, capital brokers receive 56.3 percent of the total dollar value of all orders, but they receive fully 69.1 percent of the top 1 percent of orders in terms of dollar value (Table 4).[17] In turn, specialty brokers receive 15.7 percent of the dollar value of all orders, but only 10.2 percent of the top 1 percent; and service brokers receive 17.7 percent of the dollar value of all orders, but only 12.9 percent of the top 1 percent.

Size of order is one measure of the potential difficulty of executing the order, but the same story holds using other measures of the potential difficulty. These other measures are: (1) the ratio of the share volume on the day of the order for the particular stock to the stock's average daily volume over the first quarter of 1990, (2) the ratio of the order size to the stock's average daily volume over the first quarter of 1990, (3) the ratio of the order size to the volume of the stock on the day of the order, and (4) the standard deviation of daily returns. Greater values of any of these four variables suggest greater difficulty (Table 5).

If capital brokers obtain a different mix of orders from other types of brokers, particularly the larger orders, there may be differences on average in the market or price impact

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[16]Another interpretation of the investment managers' dissatisfaction with the execution quality of trades involving directed commissions and their inclination to send their easier orders for these types of execution is that investment managers resent being forced by their clients to use specific brokers--regardless of how good the brokers actually are.

[17]As mentioned above, the Abel/Noser data contain for the most part data on the order of sponsors and not the orders of the investment managers, which on occasion are allocated to the investment managers' clients. Thus, the proportion of the top 1 percent of orders going to capital brokers may be understated.

of orders by type of brokers. The Abel/Noser data allows an analysis of such potential differences.

The measure of price impact used in this study is

$$\frac{p - \bar{p}}{\bar{p}} \qquad \text{if a purchase}$$

$$\frac{\bar{p} - p}{\bar{p}} \qquad \text{if a sale,}$$

where p is the average transaction price and $\bar{p}$ is a reference or base price. Positive values of these ratios indicate an adverse price impact. The paper used several different definitions of the reference price. The qualitative conclusions did not change much with the particular definition. The various reference prices are: (1) opening price, (2) the closing price, (3) the daily volume weighted price,[18] and (4) the average of the open and close. We also used an adjusted price, which is the average of a calculated opening price and a calculated closing price based upon the stock's closing price of the prior day. Specifically, the calculated opening price for a stock is the stock's closing price of the prior day, adjusted upwards or downwards by the return of the average NYSE stock from the prior close to the open, and the calculated close is again the stocks's closing price of the prior day, adjusted upwards or downwards by the return of the average NYSE stock from the prior close to current close. Thus, this adjusted price takes into account general market movements, but not firm-specific movements.

Using the opening price as the reference price, the capital brokers executed 78.5 percent of the dollar value of orders with the market impact measure in the top 1 percent in comparison to the previously reported 56.3 percent of the market value of all orders that capital brokers

[18]This is the same measure used in Stephen A. Berkowitz, Dennis E. Logue, and Eugene A. Noser, Jr., "The Total Cost of Transactions on the NYSE," *Journal of Finance* (March 1988).

receive (Table 6). Using other reference prices points to similar findings of a disproportionately larger price impact of orders submitted to capital brokers.

This last analysis on price impact should be interpreted with great caution. In view of the prior evidence that capital brokers receive a disproportionate percentage of the larger orders, a natural interpretation of the finding that the executions of capital brokers on average have greater price impact is that these brokers do indeed receive on average the more difficult orders, and it is these more difficult orders that one would expect to have more market impact. What this analysis does not imply is that service brokers or specialty brokers are less able than capital brokers to execute hard orders. Rather, it may only be that service or specialty brokers just receive a greater proportion of the easier orders, as the survey responses suggest.

The questionnaire did provide some tangential evidence of the relation between quality of execution and the commitment of capital to facilitate a trade. Fully 87.0 percent of the investment managers stated that the commitment of capital on occasion did improve the quality of execution (Section F of the Appendix), but nonetheless they were much less willing to ask third-party brokers to commit capital than they were to ask brokers who provide in-house research or no research at all. Roughly half of the investment managers do on occasion ask those who provide in-house or no research at all to commit capital, while less than 20 percent ask third-party brokers to commit capital (Section E of the Appendix).

III. Respondent's Views of Soft Dollars

The last set of questions for the investment managers inquired about their attitudes towards some type of governmental prohibition on the use of soft dollars. The questionnaire first asked about in-house research with the following item: "Taking into account all factors, using soft dollars to obtain *in-house research* should be prohibited." 82.5 percent disagreed or strongly disagreed with this statement, and only 11.6 percent agreed or strongly agreed (Section

H of the Appendix). To the same item except referring instead to third-party research, slightly fewer disagreed or strongly disagreed (76.8 percent), and slightly more agreed or strongly agreed (15.2 percent). To the same item except referring to directed brokerage, considerably fewer disagreed or strongly disagreed (59.1 percent), and considerably more agreed or strongly agreed (24.2 percent).

A more detailed analysis showed that those most willing to prohibit these soft dollar practices were those who were most dissatisfied with the quality of execution. Since the most dissatisfaction with execution occurred with directed brokerage, it is not surprising that the greatest sentiment for prohibiting soft dollars occurred with this type of transaction.

IV. Conclusion and Unresolved Issues

Both the subjective and objective evidence of this study confirm that soft dollars have had a significant impact on the structure of the brokerage industry with the result that the allocation of trading across brokerage firms differs from the allocation that would have occurred if only cash or hard dollars were used to buy research. In short, soft dollars are an extremely effective marketing tool. There was also evidence, though less strong, that investment managers are more inclined to send their easier orders to brokers providing third-party research and even more so to brokers for directed brokerage. Again there was both subjective and objective evidence of this effect.

The respondents' level of satisfaction with the quality of execution differed with the type of soft dollars involved. They were least satisfied with transactions involving directed brokerage, somewhat more satisfied with transactions for third-party research, and most satisfied with transactions involving in-house research. In asking about the quality of execution, the survey explicitly asked the respondents to take into account the difficulty of the execution. There is no obvious reason to believe that the quality of the execution of a small order submitted

electronically to the floor of an exchange through systems--like SuperDot--would differ according to which brokerage firm keyed in the order. Thus, an investment manager should receive the same quality of execution for an easier SuperDot-type order regardless of which firm transmitted the order. These subjective responses on satisfaction thus may not have properly factored in the difficulty of the execution of a particular order, but rather have expressed a more general perception of the overall ability of different types of firms to execute more difficult orders.

Let's assume for the moment that the respondents' perception of quality of execution did not properly adjust for the difficulty of the transactions and that, if they had properly adjusted for this difficulty, they would have been equally satisfied among the different types of firms. In this case, the capital firms would receive only the more difficult trades with the other more profitable trades being skimmed off by other firms. At least two major brokerage firms, who often commit their capital, have suggested that this phenomenon would reduce the liquidity of the market. But would it?

The simple form of this argument is that a capital firm uses the excess profits on the easier orders to offset the losses on the harder orders. But, of course, in the usual competitive model, the capital firm can always charge more for executing hard orders than for executing soft orders. In fact, the same pattern of nominal commission rates among capital firms and service firms is consistent with this scenario in that the service brokers return a portion of the commission through soft dollars, reducing their net commission, while the capital firm retains the entire commission--in effect, two different prices. Of course, capital firms could compete with service brokers for the easier orders by similarly providing soft dollars on the easier trades.

A more subtle argument, and one that the data in this paper do not address, is that there are some synergistic effects of having both easy and hard orders go through the same

brokerage house. If a firm only came to the market with hard orders, other traders would soon learn this fact with the consequence that the firm would find it increasingly difficult to trade hard orders, thereby reducing the overall liquidity of the market place. In the terminology of an economist, the private costs and benefits for a trade might be different from the social costs and benefits. Put in a slightly different context, some traders may decide it is to their advantage not to report their trades, but if every trader did this, the quality of information in the market would deteriorate to the detriment of all. It is through such a subtle, synergistic effect that the existence of soft dollars and the safe harbor provisions of Section 28(e) may reduce the liquidity of the market.

But this paper has not addressed this more fundamental issue about the effect of soft dollars on the liquidity of the market. Rather, this paper has accomplished the more modest objective of showing that soft dollars have had a significant effect upon the structure of the brokerage industry.

Table 1

Type of *Third-Party* Research Purchased with Soft Dollars

Product	Number of Respondents	Never	Sometimes/ Frequently	Almost Always/ Always
			(Percent)	
Fundamental Research	342	19.9	51.8	28.4
Data on Expected Earnings	340	22.4	45.6	32.1
Macroeconomic Services	336	29.5	49.7	20.8
Computer Software	337	37.4	54.6	8.0
Technical Research	332	41.3	44.9	13.9
Portfolio Consulting Services	340	53.5	39.7	6.8
Computer Hardware	334	66.8	29.0	4.2
Educational Services	325	70.5	28.3	1.2
Office Support Activities	330	88.2	10.9	0.9

Source: Wharton Survey

Table 2

Type of Research Purchased with *Directed Brokerage*

Product	Number of Respondents	Never	Sometimes/ Frequently	Almost Always/ Always
			(Percent)	
Portfolio Consulting Services	273	21.6	60.1	18.3
Product or Service Not Known	274	43.1	38.0	19.0
Transaction Cost Analysis	232	50.0	47.8	2.2
Commission Refunds	234	54.7	44.4	0.9
Actuarial and Accounting Services	215	62.3	36.3	1.4
Custodial Fees	225	64.9	33.8	1.3
Trading and Quotation Services	209	70.8	26.3	2.9
Educational Services	201	83.1	15.9	1.0
Computer Software	199	84.4	14.6	1.0
Computer Hardware	196	91.3	7.7	1.0
Office Support Activities	194	92.3	6.2	1.5

Source: Wharton Survey

Table 3

Distribution of Commission in Cents per Share by Type of Broker

First Quarter 1990

	1%	5%	25%	50%	75%	95%	99%
Capital brokers	0.5	2.0	5.0	5.0	6.0	8.0	9.0
Specialty brokers	3.0	4.0	5.0	6.0	7.0	10.0	10.0
Service brokers	2.0	3.0	5.0	6.0	6.0	8.0	10.0
Instinet	1.0	1.0	1.0	1.0	2.0	4.0	6.0
Total	1.0	2.0	5.0	5.0	6.0	8.0	10.0

Source: Abel/Noser Corp.

Table 4

Distribution of the Total Dollar Value by Broker Category for All Orders and for the Largest Orders

First Quarter 1990

	Percentage Distribution of the Total Dollar Value by Order Type and Broker Category	
Broker Category	All Orders[1]	Top 1% of All Orders in Terms of Dollar Value[2]
Capital brokers	56.3%	69.1%
Specialty brokers	15.7	10.2
Service brokers	17.7	12.9
Instinet	7.2	7.8

[1]The total value of all orders in the sample is $24.2 billion.
[2]The total value of the largest 1% of all orders in the sample is $3.2 billion.

Source: Abel/Noser Corp.

Table 5

Distribution of the Total Dollar Order Value by Broker Category for All Orders and Most Difficult Orders

First Quarter 1990

Broker Category	All Orders	Top 1% of All Orders in Terms of Difficulty: Ratio of Stock's Daily Volume to Average Daily Volume	Ratio of Order Size to Average Daily Volume	Ratio of Order Size to Daily Volume	Standard Deviation of Stock's Daily Returns
Capital brokers	56.3%	79.9%	77.2%	68.3%	61.3%
Specialty brokers	15.7	13.2	8.9	13.0	19.2
Service brokers	17.7	5.3	11.3	12.0	13.2
Instinet	7.2	1.0	2.3	6.2	1.8

Source: Abel/Noser Corp.

Table 6

Distribution of the Total Dollar Order Value by Broker Category for All Orders and Orders with the Greatest Market Impact

First Quarter 1990

Broker Category	All Orders	Top 1% of All Orders with Reference Prices based on:				
		Opening Price	Closing Price	Average of Open and Close	Volume Weighted Price	Adjusted Price
Capital brokers	56.3%	78.5%	66.7%	78.7%	62.8%	70.4%
Specialty brokers	15.7	11.2	11.0	7.5	10.3	7.5
Service brokers	17.7	8.7	13.1	8.9	10.0	18.5
Instinet	7.2	0.4	6.4	2.8	14.5	2.3

Source: Abel/Noser Corp.

APPENDIX

Survey Responses

	Number of Respondents	Never	Sometimes	Frequently	Almost Always	Always
A. Mix of Brokers				(Percent)		
Has the availability of ***in-house*** research caused the mix of brokers you use to be different from the mix that you would use were it not for this type of research?	338	24.3	32.5	26.0	11.5	5.6
Has the availability of ***third-party*** research caused the mix of brokers you use to be different from the mix that you would use were it not for this type of research?	339	17.4	35.7	25.1	14.7	7.1
Do transactions by brokers whom your clients designate for ***directed brokerage*** cause you to use brokers that you normally would not use?	304	6.9	31.3	25.7	25.7	10.5
B. Satisfaction with Execution Quality						
Taking into account the difficulty of execution, are you generally satisfied that transactions to obtain ***in-house*** research are as well executed as other transactions?	340	2.6	7.6	14.7	47.9	27.1
Taking into account the difficulty of execution, are you generally satisfied that transactions to obtain ***third-party*** research are as well executed as other transactions?	339	4.1	21.5	17.4	36.6	20.4
Taking into account the difficulty of execution, are you generally satisfied that transactions by brokers whom your clients designate for ***directed brokerage*** are as well executed as your other transactions?	305	8.5	45.6	20.0	19.3	6.6
C. Direction of Easier Trades						
Do you tend to send ***easier*** trades to brokers who provide ***in-house*** research?	336	45.5	39.9	8.0	4.8	1.8
Do you tend to send ***easier*** trades to brokers who provide ***third-party*** research?	338	32.0	30.2	18.9	16.3	2.7
Do you tend to send ***easier*** trades to brokers whom your clients designate for ***directed brokerage***?	309	29.4	22.0	18.8	21.4	8.4

	Number of Respondents	Never	Sometimes	Frequently	Almost Always	Always
D. Limits on Directed Commissions						
Do you have limits on the amount that you allow clients to direct?	302	52.6	14.2	6.6	8.9	17.5
E. Commitment of Capital						
Do you ever ask brokers who provide ***in-house*** research to commit capital to facilitate a trade?	338	47.6	39.1	10.7	2.7	0.0
Do you ever ask brokers who provide ***third-party*** research to commit capital to facilitate a trade?	340	80.6	17.6	1.8	0.0	0.0
Do you ever ask other brokers who do ***not*** provide research to commit capital to facilitate a trade?	346	54.6	33.8	9.0	2.3	0.3

	Number of Respondents	Never	Sometimes	Always
F. Value of Capital Commitment				
When a broker commits capital to facilitate a transaction, do you obtain a better execution?	291	13.1	79.4	7.6
G. Procedures to Measure Trading Costs				
Does your typical client have a formal procedure for measuring total transaction costs?	342	33.3	64.3	2.3

	Number of Respondents	Strongly Disagree	Disagree	Un-decided	Agree	Strongly Agree
H. Overall View of Soft Dollars						
Taking into account all factors, using soft dollars to obtain ***in-house*** research should be prohibited.	371	49.3	33.2	5.9	4.9	6.7
Taking into account all factors, using soft dollars to obtain ***third-party*** research should be prohibited.	374	39.6	37.2	8.0	6.1	9.1
Taking into account all factors, ***directed brokerage*** to obtain research should be prohibited.	367	24.8	34.3	16.6	11.4	12.8

NOTE: Percentages do not always sum to 100 due to rounding errors.